

# KIC 006635571

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006635571-01	OBS	No	445.626846	467.211693	111.9	16.337	10.4	10.2	2.02	7892	2.47	7.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006635571-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

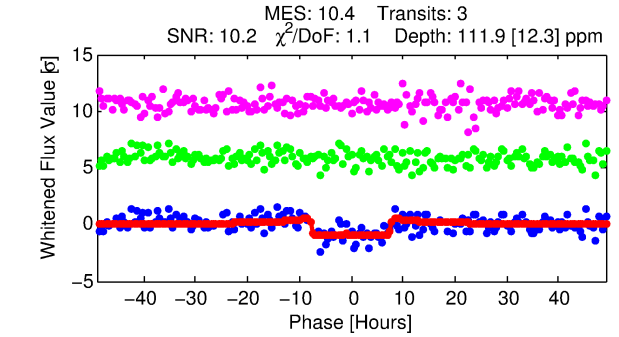
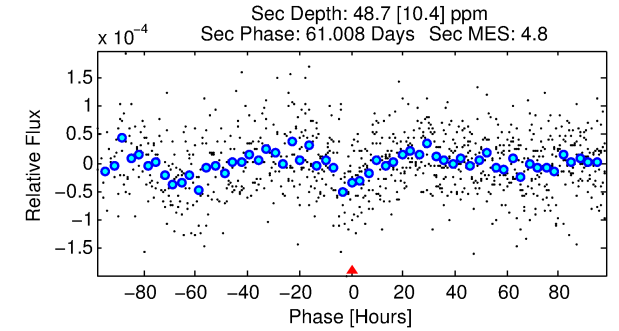
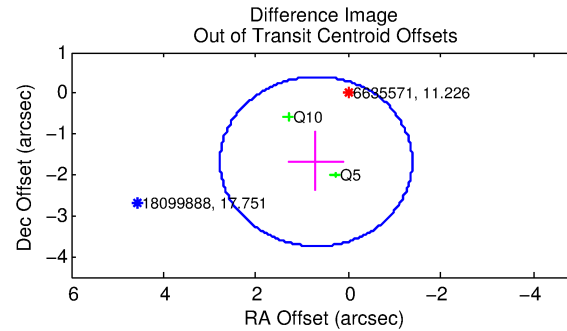
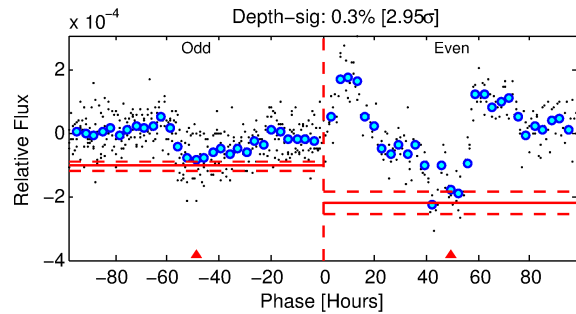
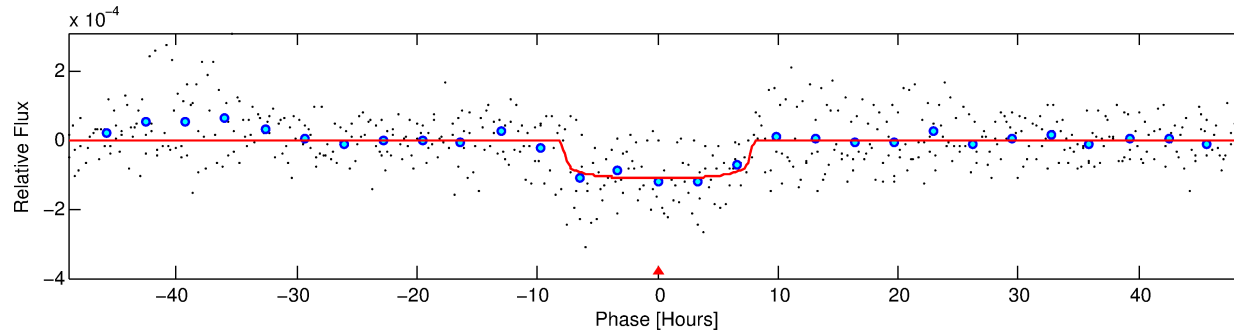
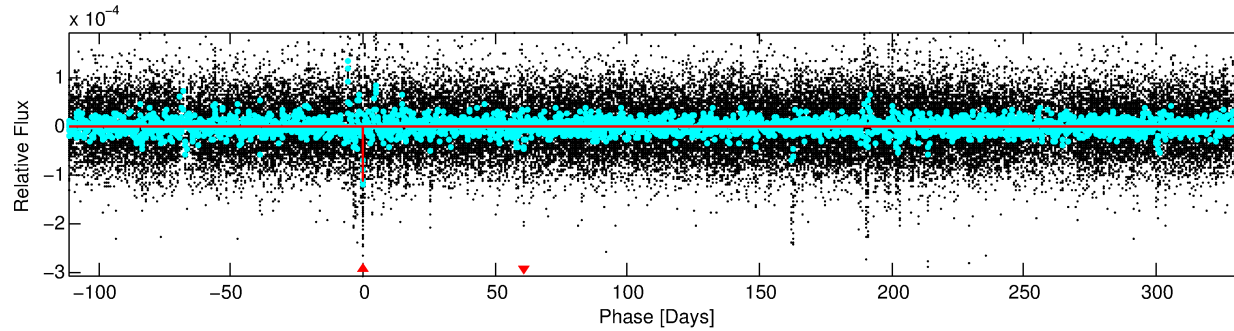
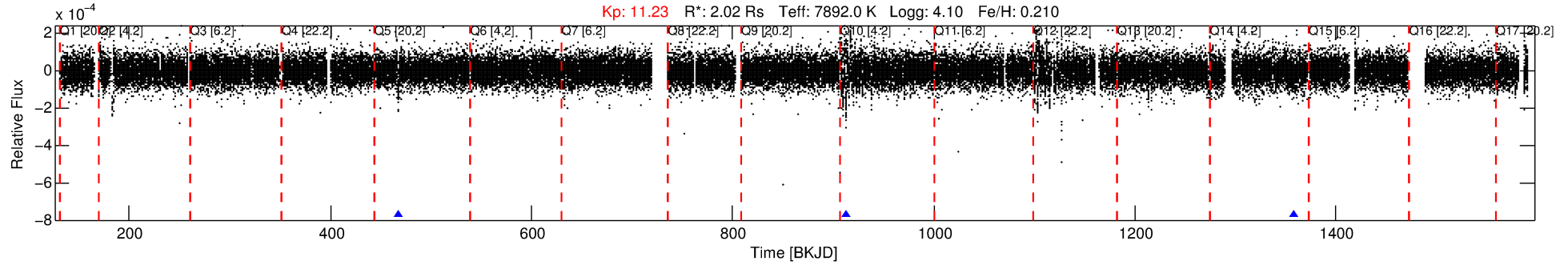
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006635571-01

No Significant Match Found

# DV One-Page Summary

KIC: 6635571 Candidate: 1 of 1 Period: 445.627 d



## DV Fit Results:

Period = 445.62685 [0.00997] d  
Epoch = 467.2117 [0.0125] BKJD  
Rp/R\* = 0.0112 [0.0011]  
a/R\* = 96.75 [44.04]  
b = 0.90 [0.10]  
Seff = 7.13 [2.51]  
Teq = 417 [37] K  
Rp = 2.47 [0.64] Re  
a = 1.4087 [0.2898] AU  
Ag = 8715.62 [3627.91] [2.40 $\sigma$ ]  
Teffp = 6224 [522] K [11.09 $\sigma$ ]

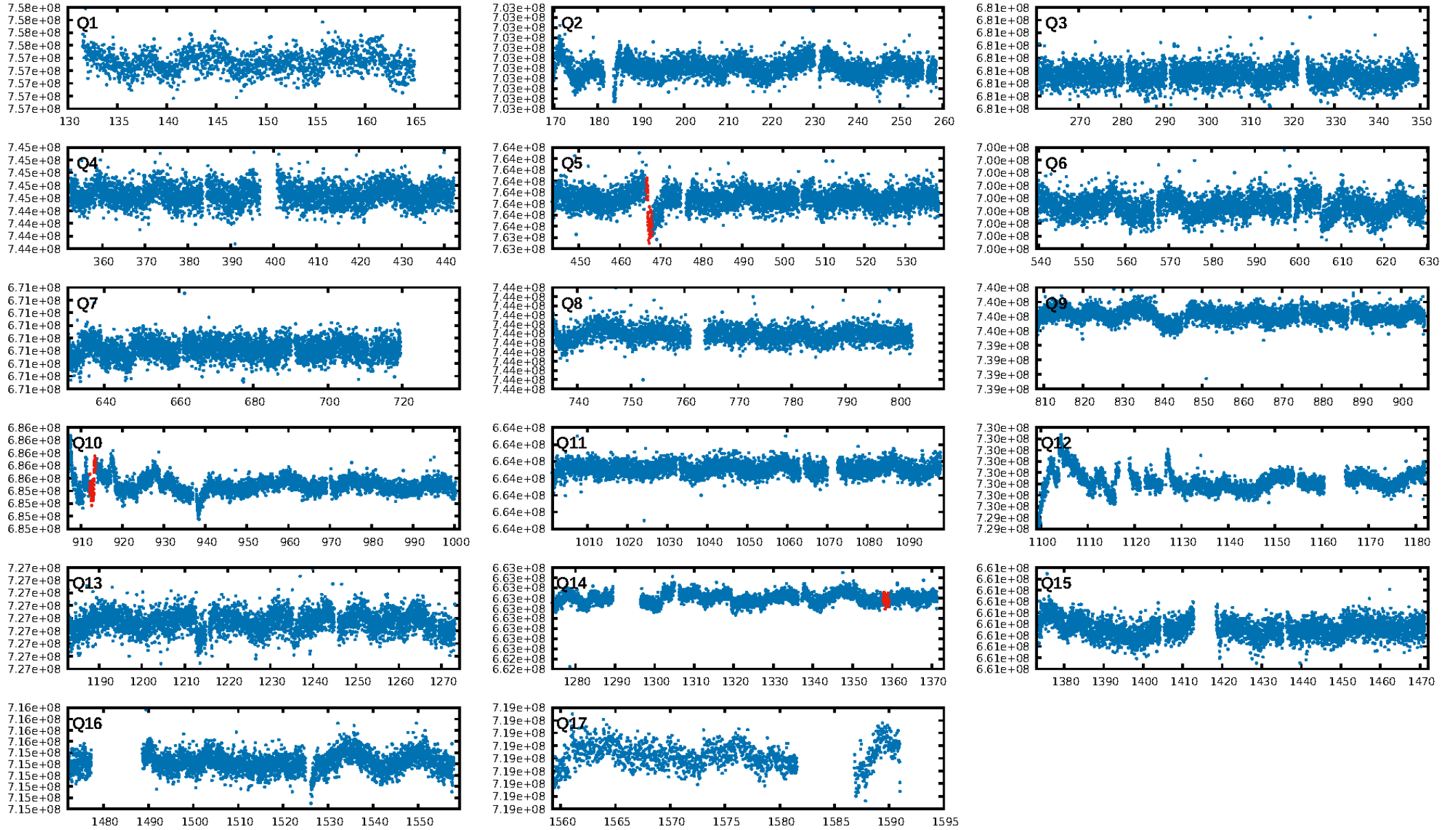
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 98.9%  
Bootstrap-pfa: 6.14e-11  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.563  
Centroid-sig: 0.1%  
Centroid-so: 4.442 arcsec [2.49 $\sigma$ ]  
OotOffset-rm: 1.814 arcsec [2.62 $\sigma$ ]  
KicOffset-rm: 1.926 arcsec [2.96 $\sigma$ ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

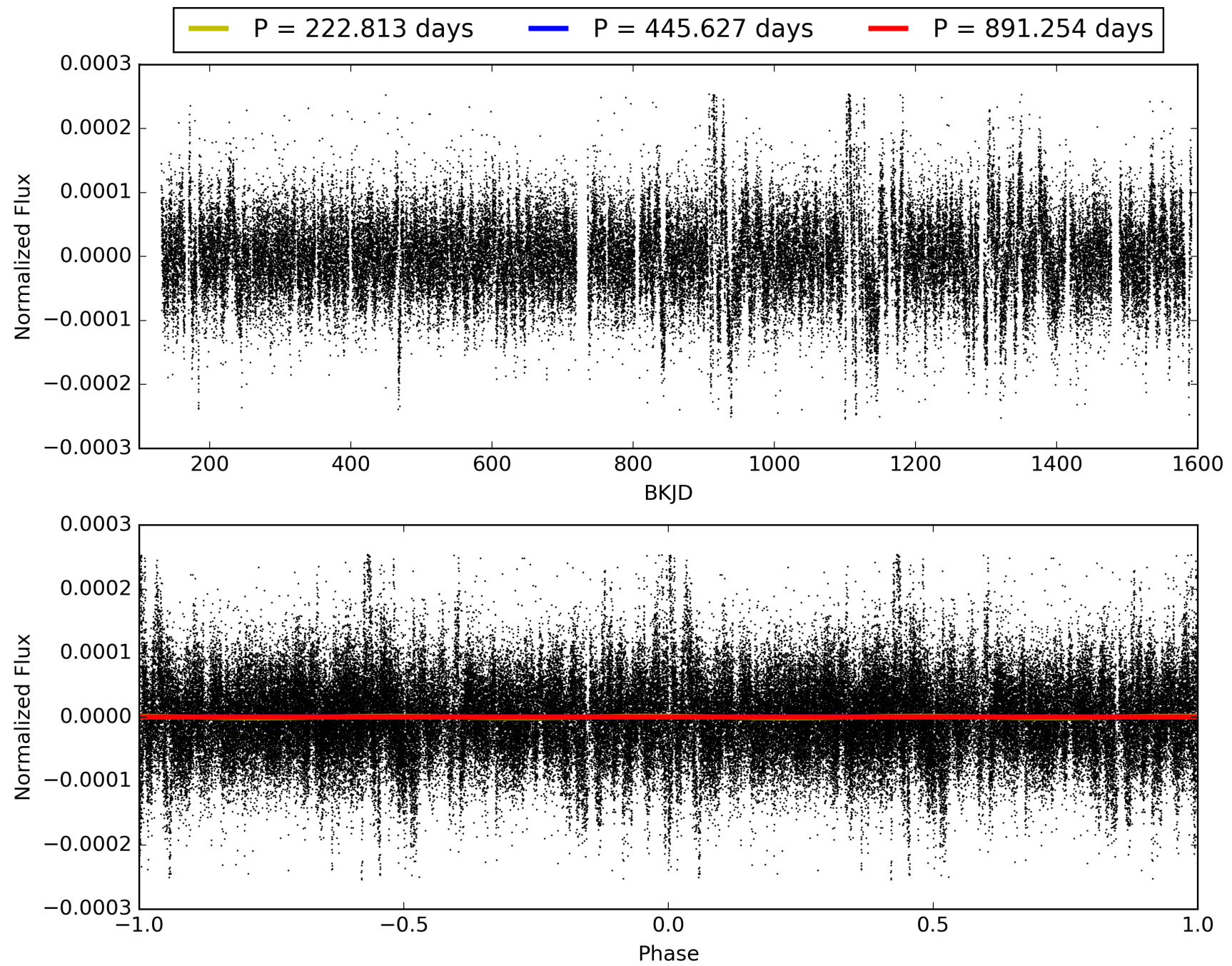
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:33:14 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006635571-01, PDC Light Curves

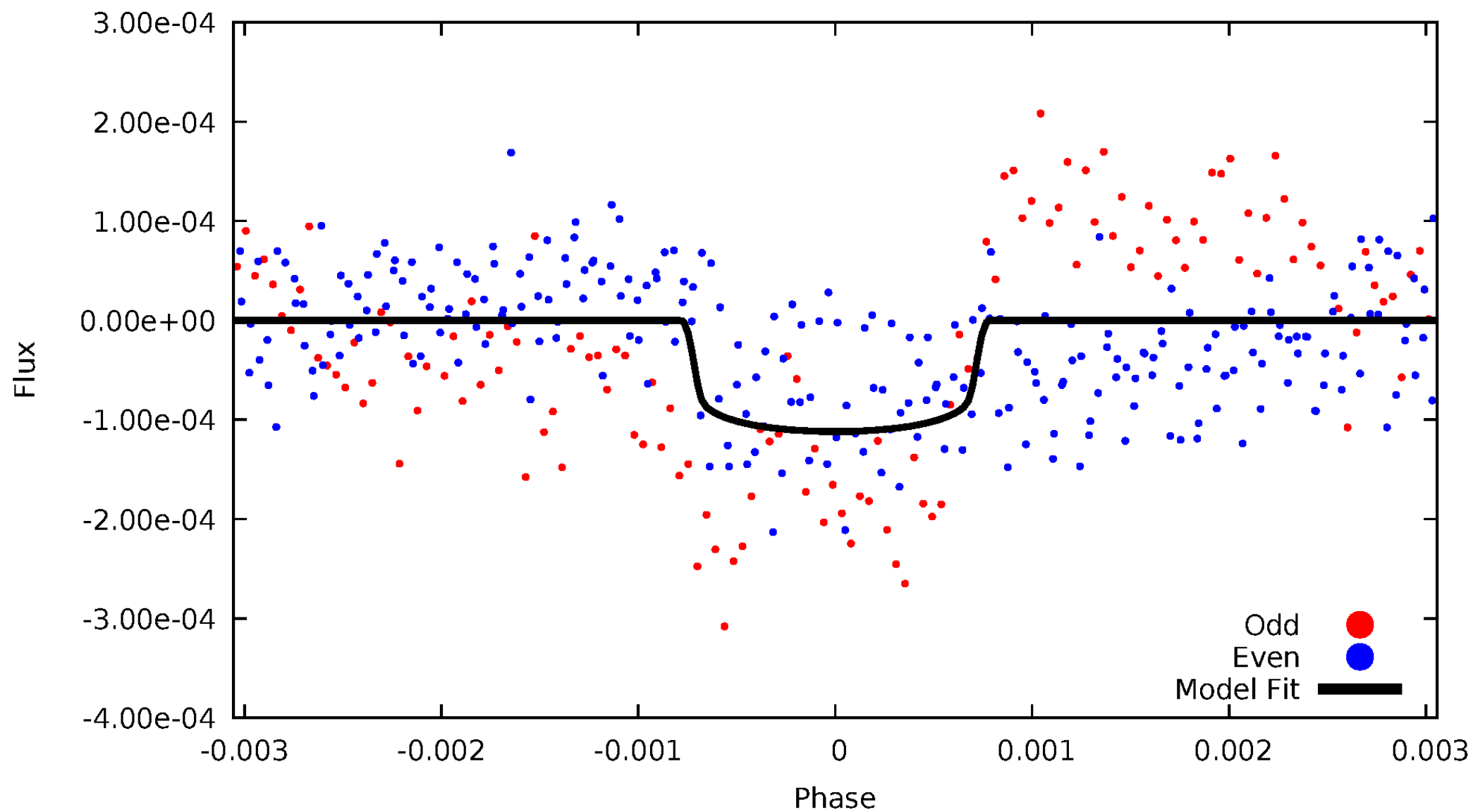


TCE 006635571-01



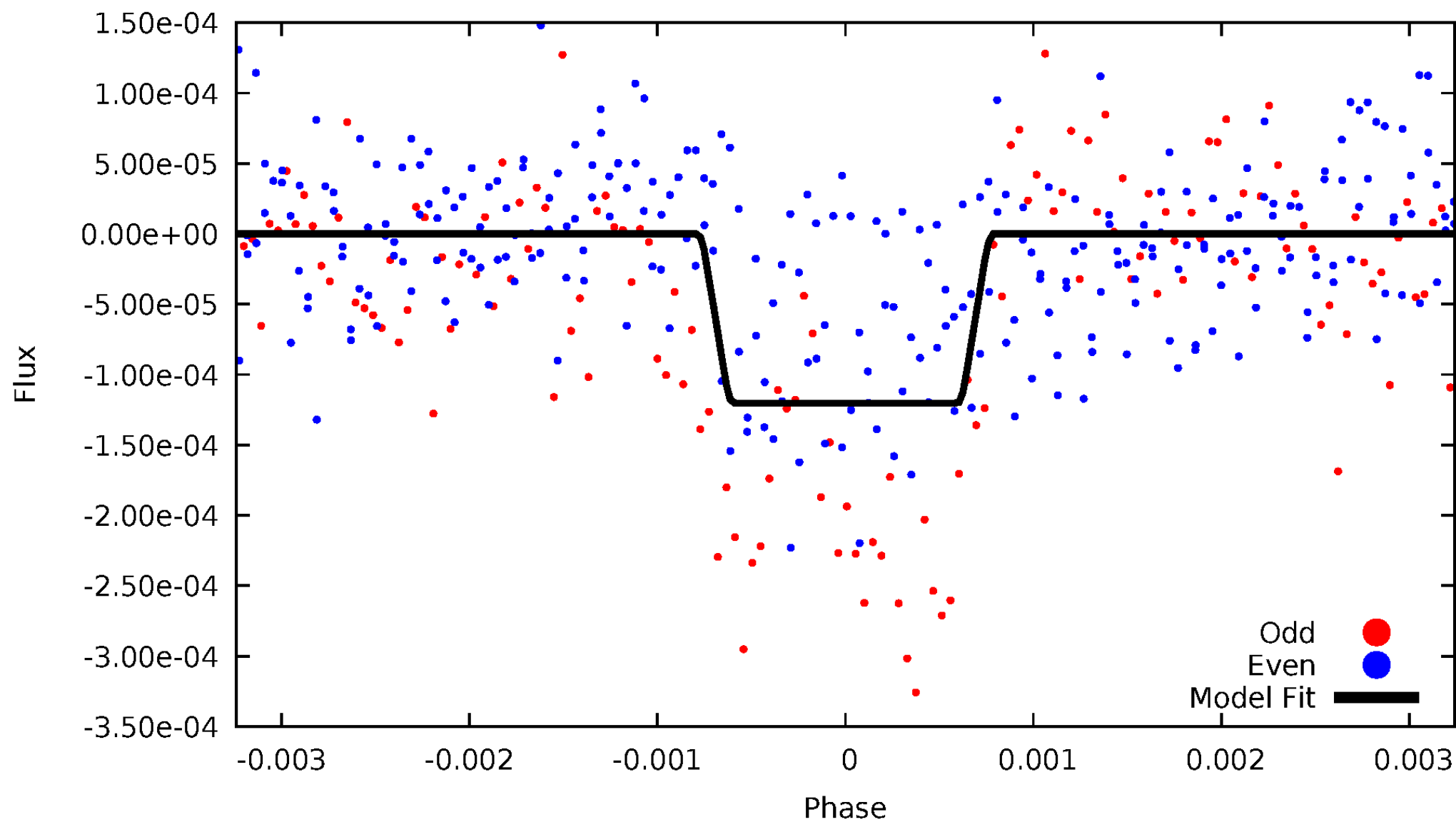
# DV Odd/Even

TCE 006635571-01



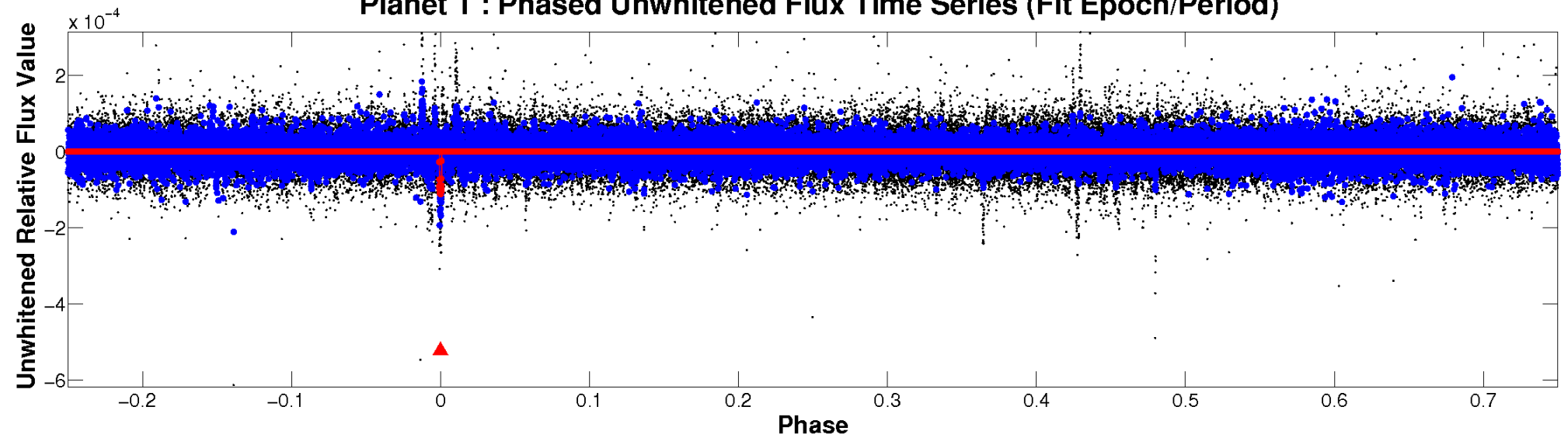
# ALT Odd/Even

TCE 006635571-01

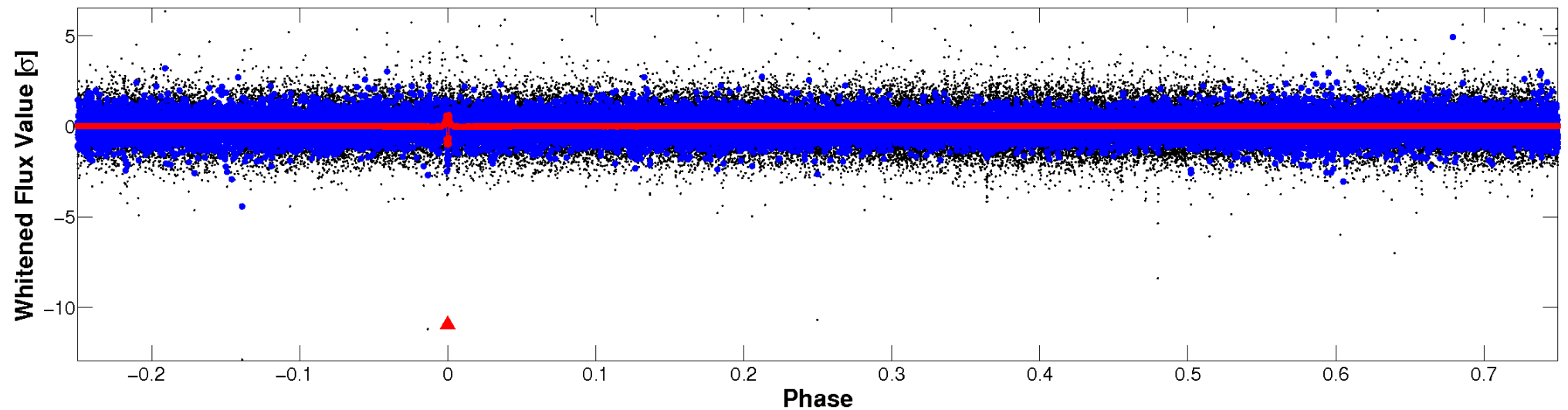


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**



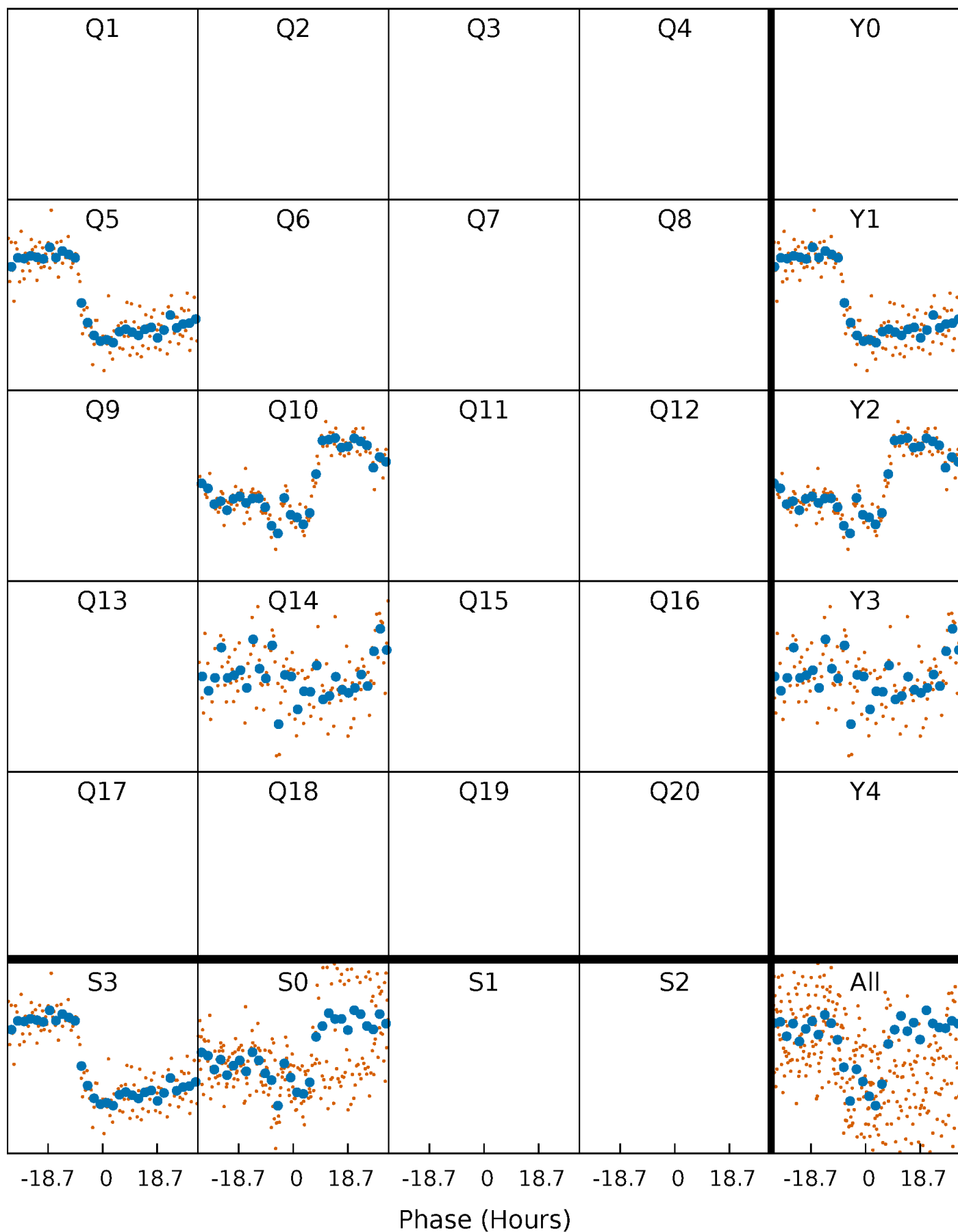
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

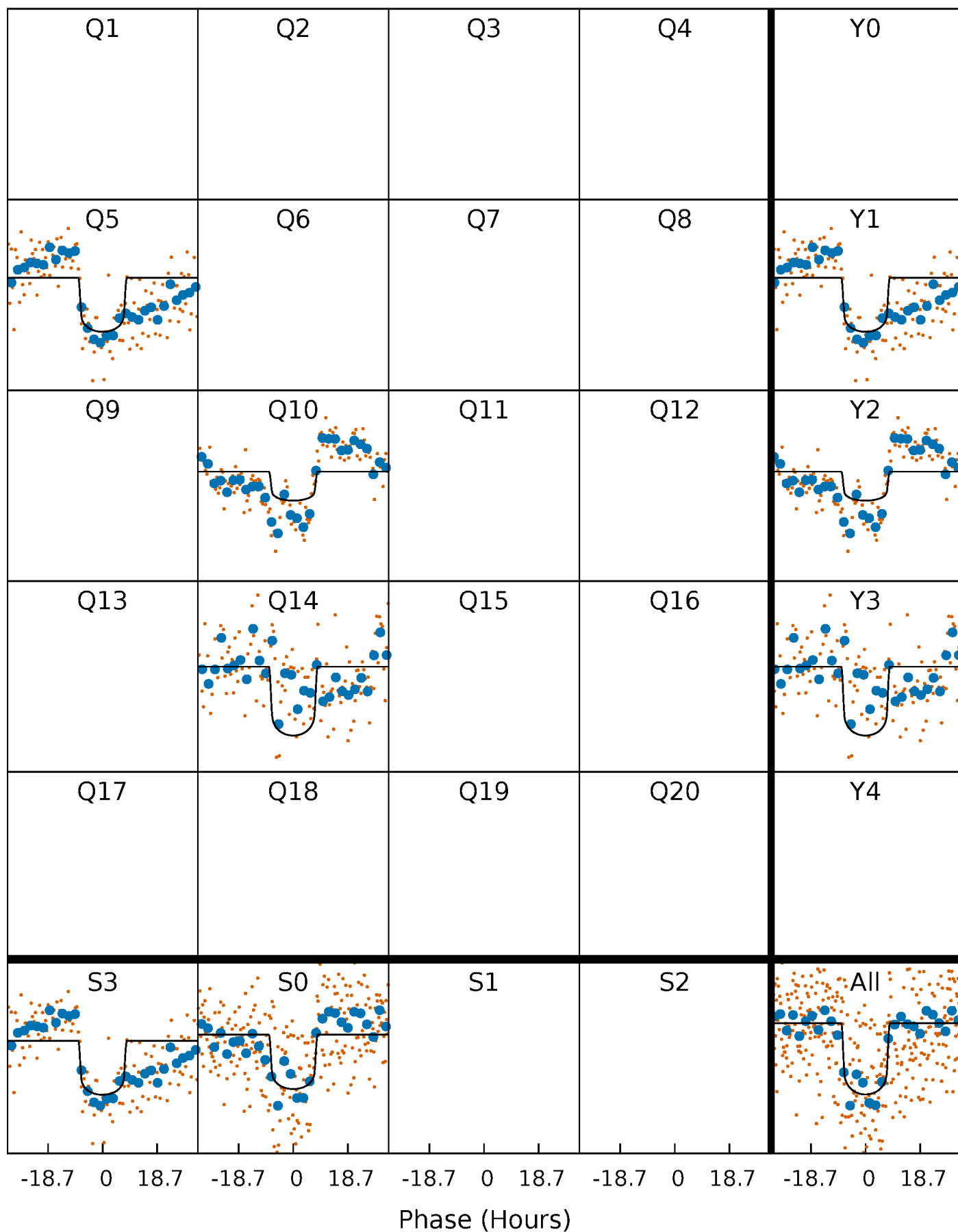
TCE 006635571-01 P=445.626846 Days  $T_0=467.211693$  (BKJD)





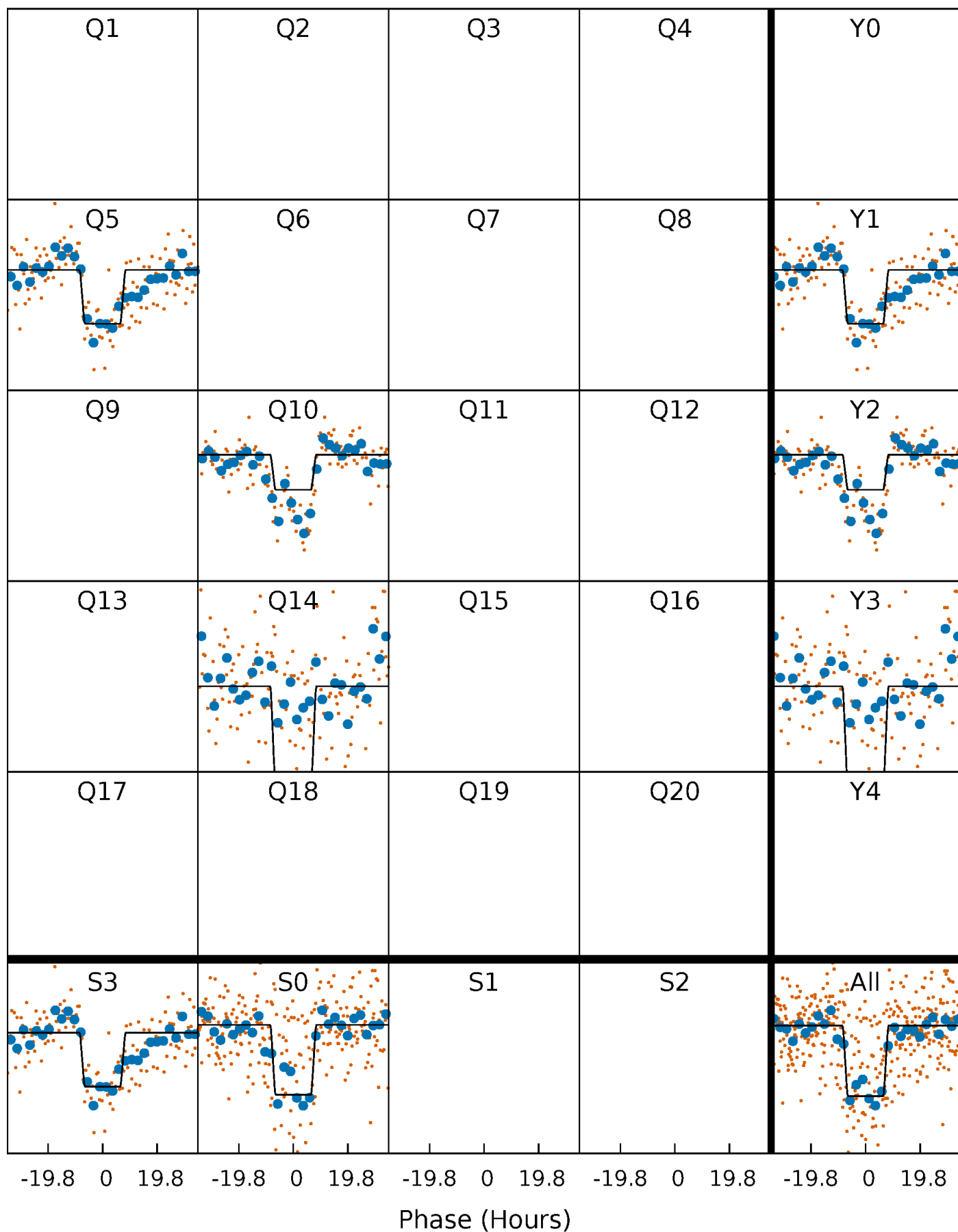
# DV Quarter-Phased Transit Curves

TCE 006635571-01 P=445.626846 Days  $T_0=467.211693$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

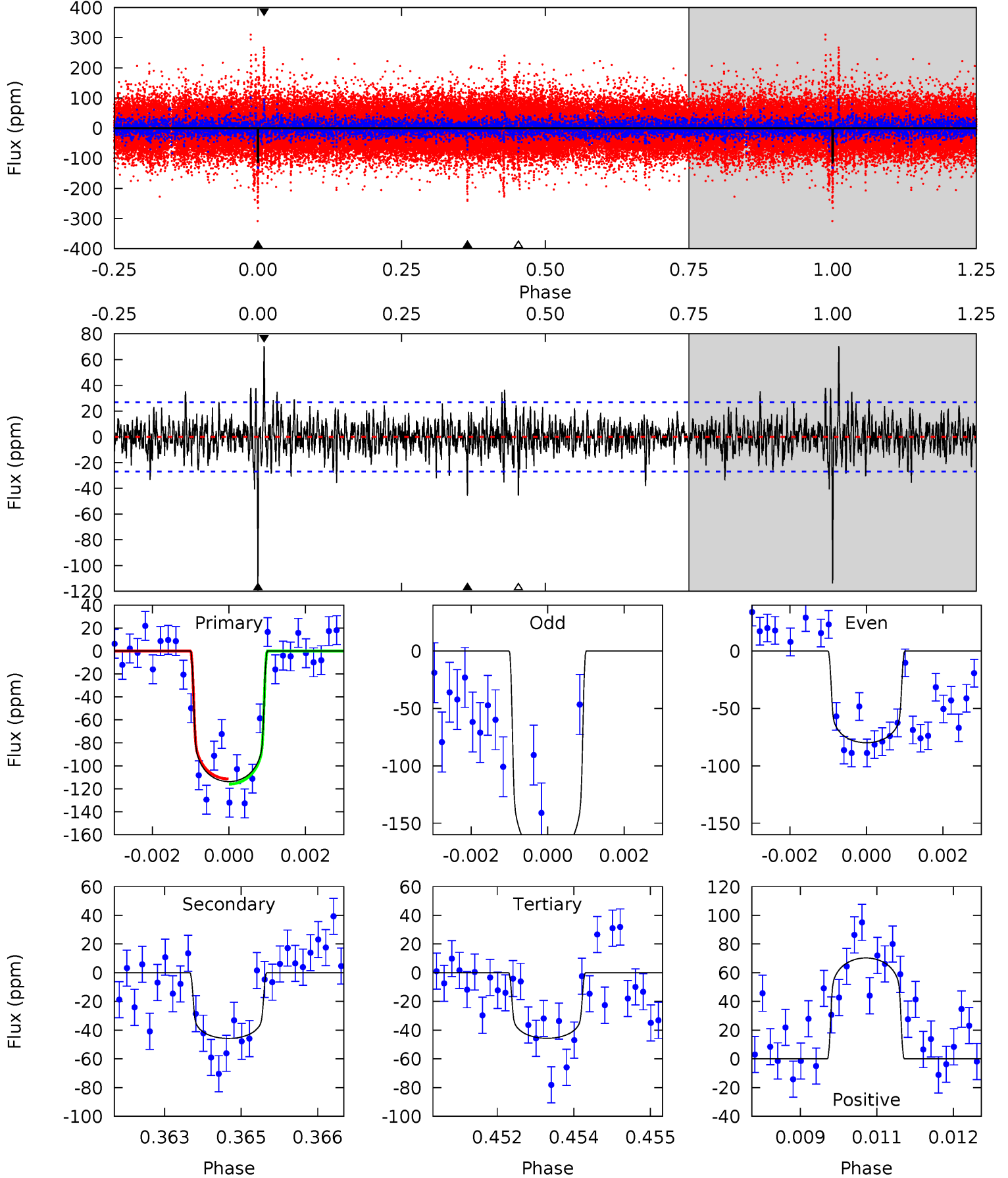
TCE 006635571-01 P=445.628699 Days  $T_0=467.200712$  (BKJD)



# DV Model-Shift Uniqueness Test

006635571-01, P = 445.626846 Days, E = 21.584847 Days

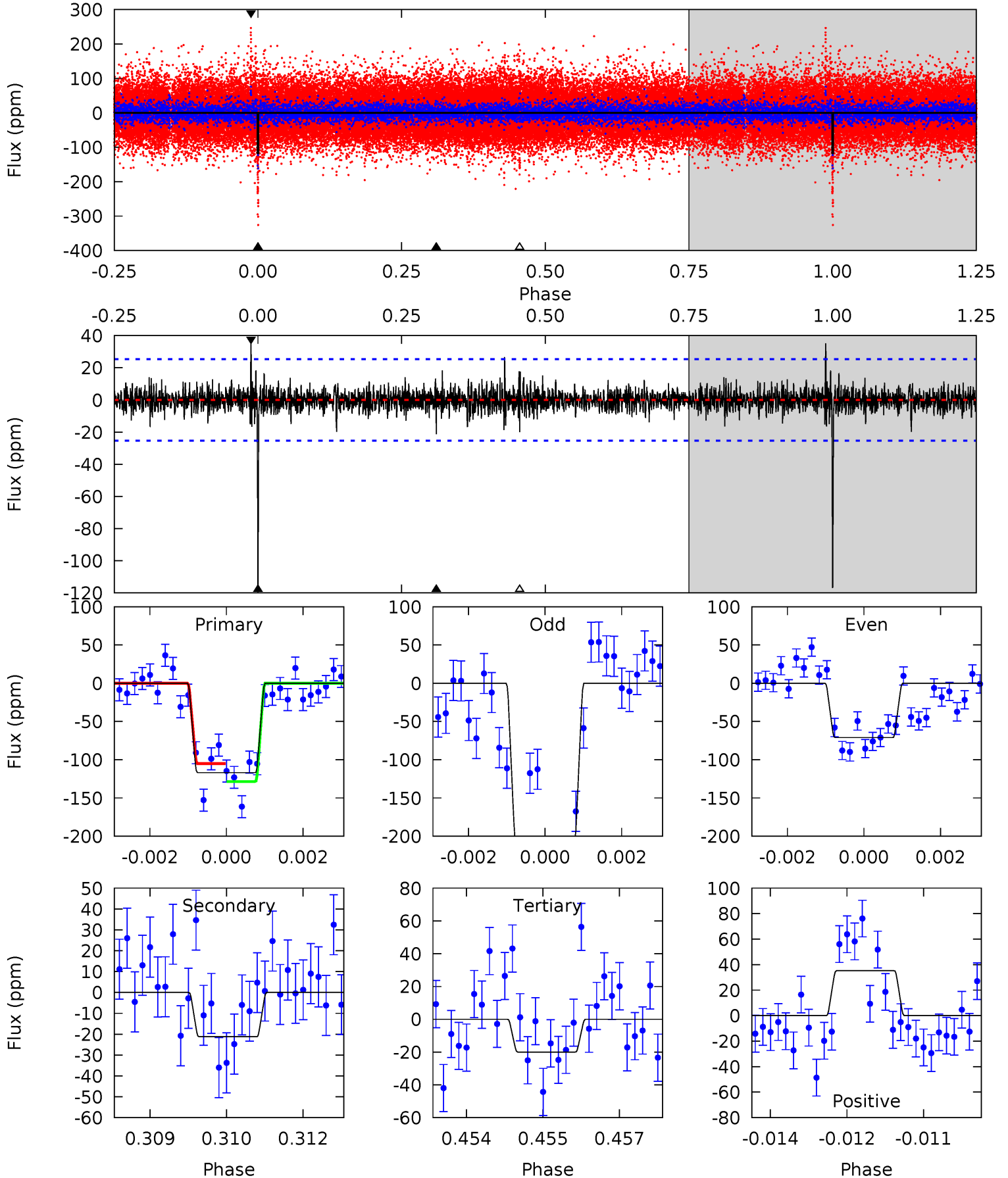
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	9.13	9.11	14.0	5.37	3.16	1.99	13.6	8.67	0.02	-4.89	9.18	0.92	0.38	0.45



# Alt Model-Shift Uniqueness Test

006635571-01, P = 445.628699 Days, E = 21.572013 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	4.50	4.23	7.45	5.37	3.16	1.00	20.5	17.3	0.27	-2.95	13.5	0.96	0.23	2.49



### Stellar Parameters For KIC 006635571

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7892^{+216}_{-351}$	$4.102^{+0.112}_{-0.168}$	$0.210^{+0.150}_{-0.500}$	$2.017^{+0.485}_{-0.397}$	$1.874^{+0.172}_{-0.319}$	$0.322^{+0.200}_{-0.143}$
	+3%/-4%	+3%/-4%	+71%/-238%	+24%/-20%	+9%/-17%	+62%/-44%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006635571-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-46 \pm 5$	$2.53^{+0.42}_{-0.36}$	$588^{+38}_{-38}$	$5929^{+423}_{-315}$	$7660^{+2900}_{-1971}$
Alt.	$-21 \pm 5$	$2.45^{+0.43}_{-0.33}$	$587^{+39}_{-34}$	$5073^{+300}_{-354}$	$3712^{+1573}_{-1116}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

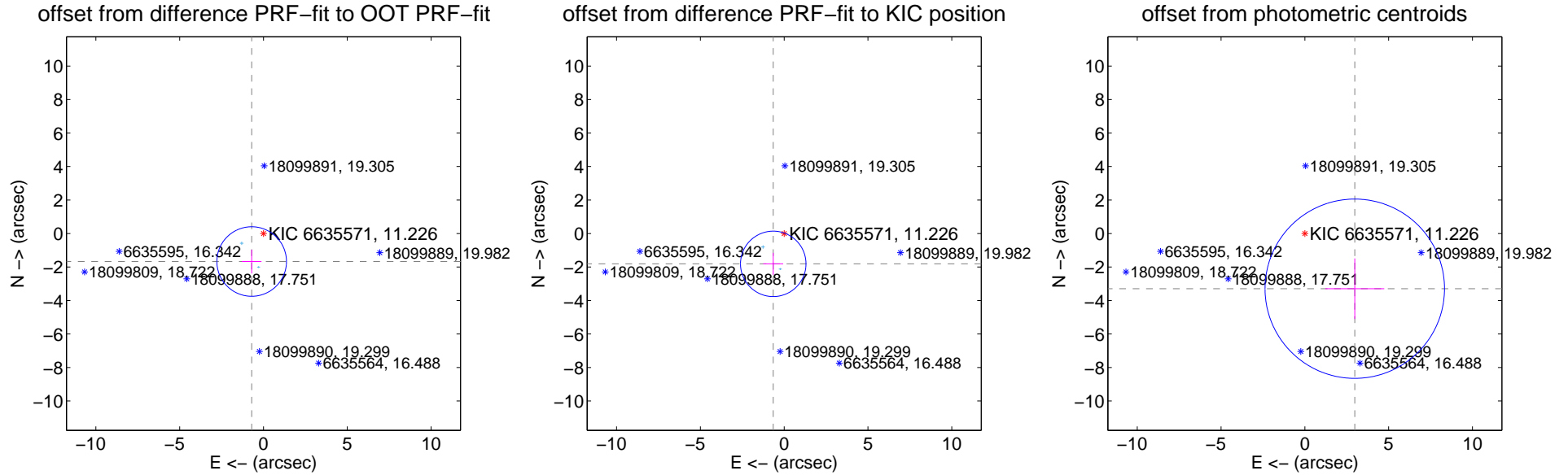
## DV Centroid Data

Supplemental centroid analysis for 006635571-01. **Kepler magnitude: 11.23.** Transit SNR 10.19

**There are 2 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.814 \pm 0.692$	2.62	$0.704 \pm 0.583$	$-1.672 \pm 0.710$
PRF-fit source offset from KIC position	$1.926 \pm 0.651$	2.96	$0.652 \pm 0.596$	$-1.812 \pm 0.658$
photometric centroid source offset	$4.44 \pm 1.78$	2.49	$-2.98 \pm 1.76$	$-3.30 \pm 1.81$



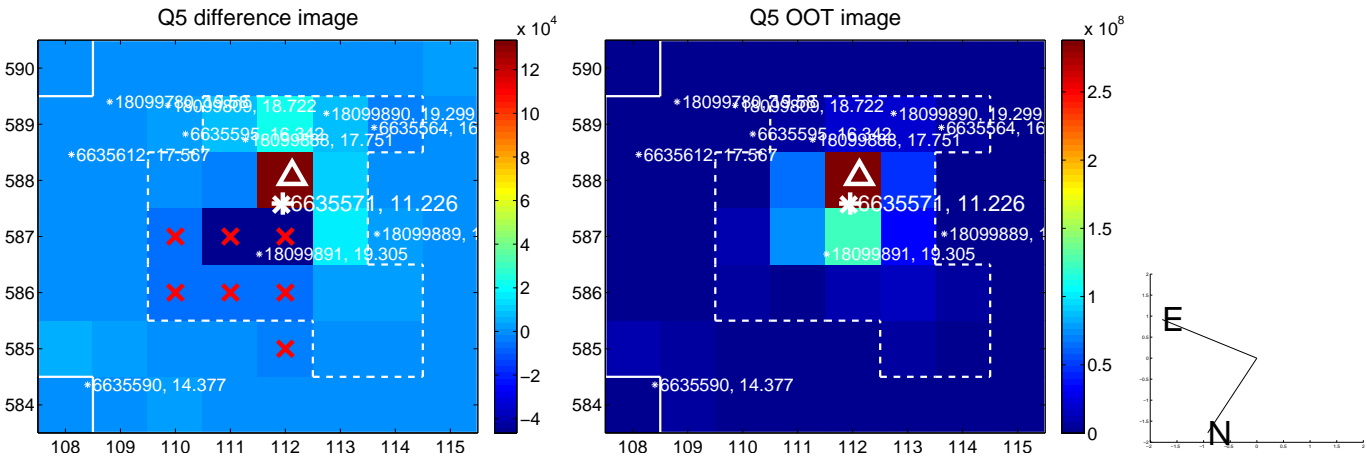
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

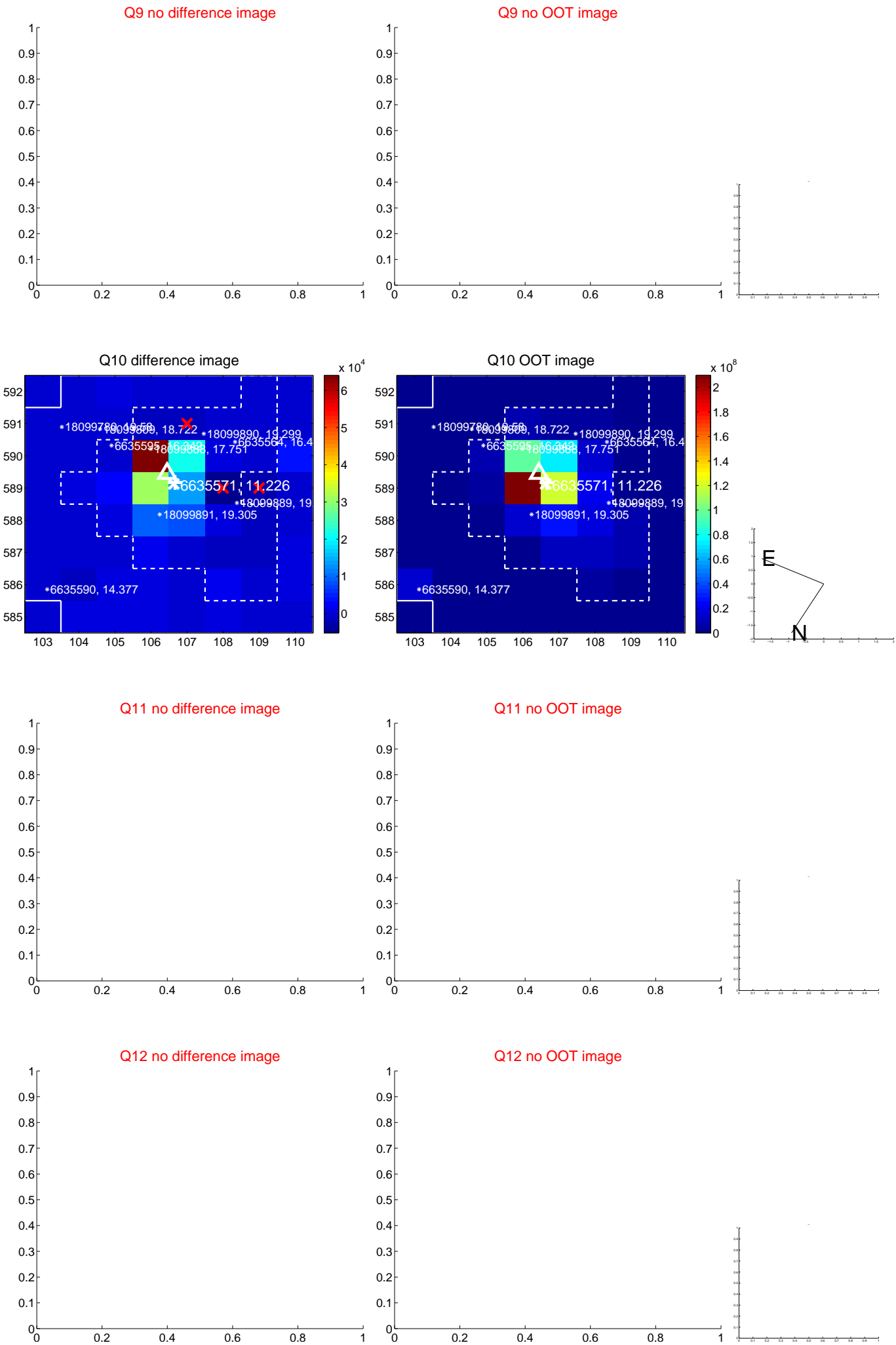




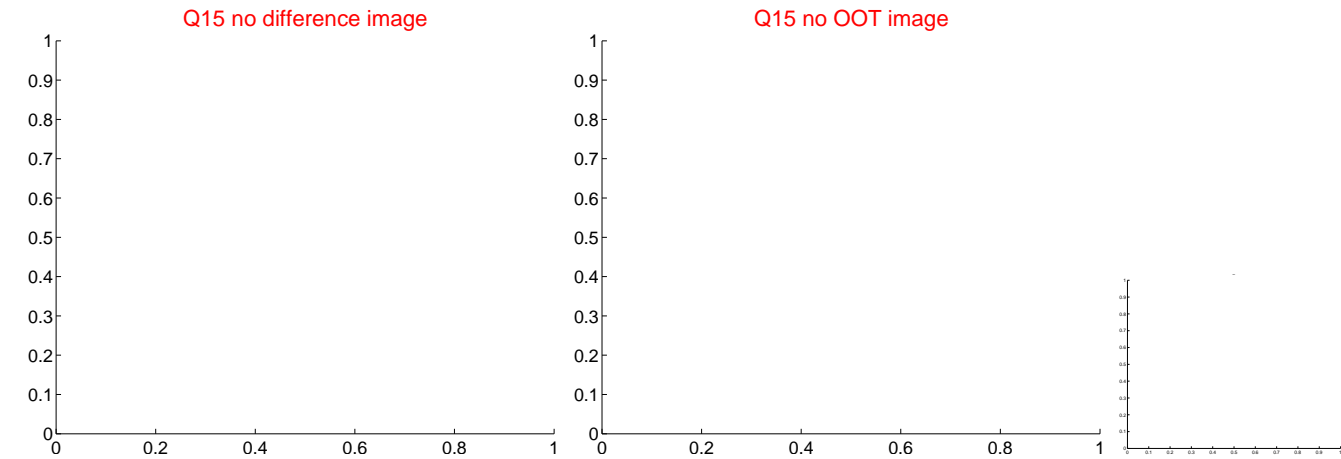
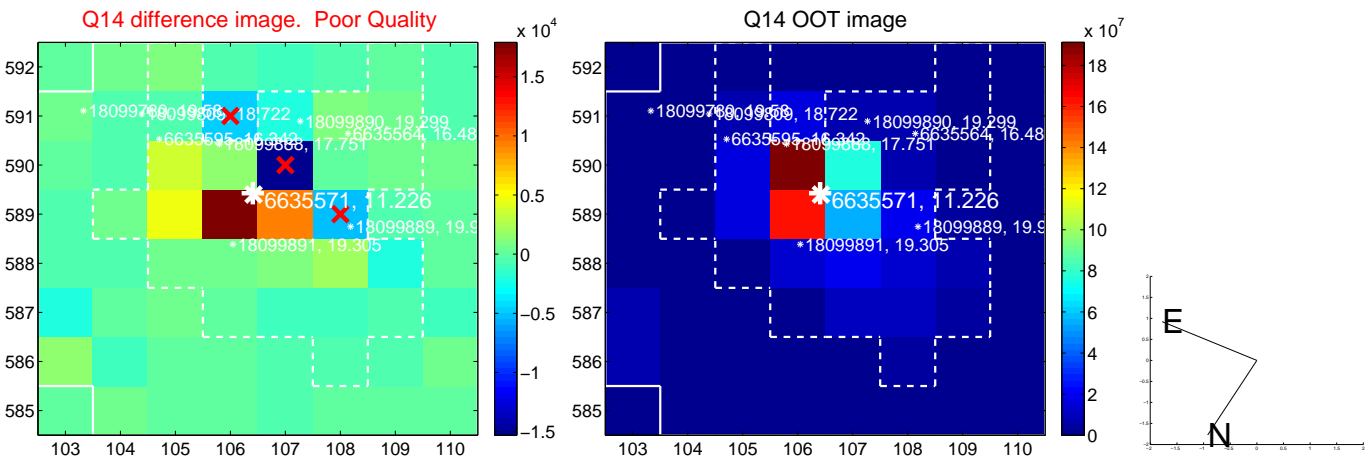
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



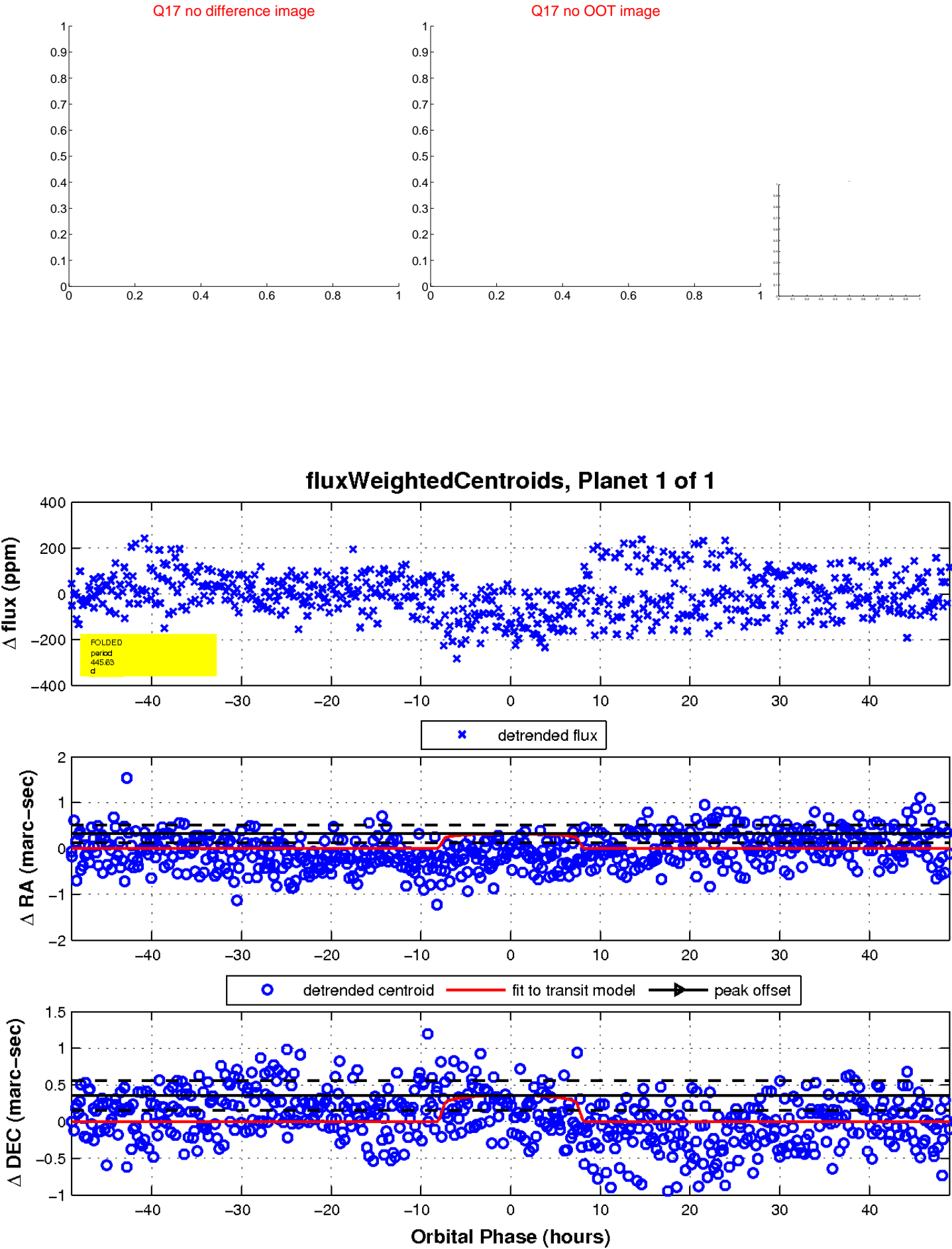
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

